

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
28 October 2004 (28.10.2004)

PCT

(10) International Publication Number
WO 2004/092181 A1

(51) International Patent Classification⁷: **C07D 495/04**,
519/00, A61K 31/4985, A61P 3/04

(21) International Application Number:
PCT/US2004/010518

(22) International Filing Date: 6 April 2004 (06.04.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/462,292 11 April 2003 (11.04.2003) US

(71) Applicant (for all designated States except US):
SMITHKLINE BEECHAM CORPORATION
[US/US]; One Franklin Plaza, Philadelphia, Pennsylvania 19101 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BARVIAN, Kevin, K** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **CARPENTER, Andrew, J** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **COOPER, Joel, P** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **FELDMAN, Paul, L** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **GUO, Yu, C** [CN/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **HANDLON, Anthony, L** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **HERTZOG, Donald, L** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **HYMAN, Clifton, E** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **PEAT, Andrew, J** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **PECKHAM, Gregory, E.** [US/US]; GlaxoSmithKline,

Five Moore Drive, PO Box 13398, Research Triangle Park, NC 27709 (US). **SPEAKE, Jason, D.** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **SWAIN, William, R** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **TAVARES, Francis, X.** [US/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US). **ZHOU, Huiqiang** [CN/US]; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US).

(74) Agents: **LEVY, David, J et al.**; GlaxoSmithKline, Five Moore Drive, PO Box 13398, Research Triangle Park, North Carolina 27709 (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HETEROCYCLIC MCHR1 ANTAGONISTS

(57) Abstract: This invention relates to novel heterocycles which are antagonists at the melanin-concentrating hormone receptor 1 (MCHR1), also referred to as 11CBy, to pharmaceutical compositions containing them, to processes for their preparation, and to their use in medicines. Compounds of the invention have the formula: Insert Formula I here

WO 2004/092181 A1